UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,651	09/23/2003	Toshimitsu Tetsui	243028US0DIV	9115

22850 7590 12/14/2007

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
MORILLO, JANELL COMBS	
ART UNIT	PAPER NUMBER
1793	

NOTIFICATION DATE	DELIVERY MODE
12/14/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary	Application No.	Applicant(s)	
	10/667,651	TETSUI ET AL.	
	Examiner	Art Unit	
	Janelle Combs-Morillo	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *8-12 and 14-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *8-12 and 14-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/789540.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 17, 2007 has been entered.

2. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 8-12, 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masahashi et al. (US 5,370,839).

Masahashi teaches a process of working and heat treating a TiAl alloy with 47.5-52at% Ti and 1-5at% Cr, balance (42.5-51%) Al (column 2 lines 65-68- column 3 lines 1-5), which overlaps the instant alloy composition to achieve a lamellar structure (column 6 line 67). Said alloy is processed by homogenization heating to (1273K – solidus temperature) for 2-100 hrs (column 5 lines 44-46), which broadly overlaps the α temperature range as well as the $\alpha + \beta$. Masahashi teaches said homogenization step is followed by a thermomechanical heat treatment using a cooling rate of $\geq$ 10K/min (column 6 line 43) and a temperature of 1173K- solidus temperature (column 6 line 11), which overlaps the predetermined working temperature and cooling rate. Masahashi teaches the thermomechanical working can be forging (column 7 line 4). Masahashi teaches the thermomechanical treatment is performed in a nonoxidizing atmosphere (column 6 lines 38-40) in order to prevent oxidation. Though Masahashi does not specify the workpiece is removed from the high temperature homogenizing furnace prior to hot working, however, it would have been within the level of one of ordinary skill in the art to remove the workpiece after homogenizing heating, and prior to hot working by forging, etc., because

Masahashi does not specify said thermomechanical treatment is performed in the homogenizing furnace, and/or because said working temperature is lower than the homogenization temperature. Because the process of heat treating and thermomechanically working as taught by Masahashi broadly overlaps the presently claimed parameters, and applicant has not shown specific unexpected results/criticality of the presently claimed range with respect to said overlap, it is held that Masahashi has created a prima facie case of obviousness of the presently claimed invention.

Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP §716.02(d) - § 716.02(e).

Concerning claims 9, 10, 12, 15-17, as stated above, Masahashi teaches said heat treatment parameters that overlap the presently claimed parameters.

Concerning claim 11, though the prior art does not teach the structure of the device used to perform the instant method step of holding at the holding temperature, it is well settled that where the prior art clearly teaches the process sought to be patented, a difference in the structure of the apparatus used to carry out the process, or any of its steps, cannot be considered as a patentable limitation therein (In re Sweeney et al. 72 USPQ 50).

Response to Arguments

5. In the response filed on October 17, 2007 applicant submitted various arguments traversing the rejections of record.

6. As stated previously, the examiner agrees that instant claims 8-12 are supported in the certified translation of the priority docment, and applicant has overcome the JP'025 reference.

7. Applicant's argument that the present invention is allowable over the prior art of record because Masahashi does not teach the cooling rate is significant has not been found persuasive. Masahashi teaches the cooling rate is >10 K/min, which overlaps the presently claimed range of 50-700 °C/min. With respect to the overlap, applicant has not shown specific unexpected results. Moreover, Applicant's argument that the present invention is allowable over the prior art of record because there is no motivation to selected a cooling rate beyond 10K/min (even thought Masahashi teaches ≥ 10K/min) has not been found persuasive. The range taught by Masahashi overlaps the presently claimed cooling rate range. Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," In re Peterson, 65 USPQ2d at 1379 (CAFC 2003).

8. Applicant's argument that the present invention is allowable over the prior art of record because Masahashi is drawn to isothermal forging at a low distortion speed while the instant invention is drawn to high speed plastic working, and "the difference between the present invention and Masahashi et al lies in whether or not heating of material during plasticity process is performed and the processing speed" (arguments page 3) has not been found clearly

persuasive. Applicant has not shown that the thermomechanical process of working and heat treating taught by Masahashi is materially different than the claimed process of heating and working (the examiner notes that 'high-speed plastic working' is not defined by a minimum strain rate or working speed in the original specification. Further, it is unclear the strain rate taught typical by Masahashi at examples, etc., is clearly outside the scope of said 'high-speed' plastic working of the invention).

9. Applicant's argument that the present invention is allowable over the prior art of record because the present invention does not limit the distortion speed while the materials used by Masahashi cannot be transformed at high speeds and would be cracked (arguments page 4), has not been found persuasive. Applicant has not shown specific evidence that a high speed working process performed on the alloy product taught by Masahashi would result in cracking. "[T]he PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his [or her] claimed product. Whether the rejection is based on inherency' under 35 U.S.C. 102, on prima facie obviousness' under 35 U.S.C. 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO's inability to manufacture products or to obtain and compare prior art products." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977)), see MPEP 2112. Applicant has not clearly shown an unobvious difference between the instant invention and the prior art's product.

Conclusion

10. All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art

of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCM
November 28, 2007

ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700